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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,637	04/11/2001	Alfons Gail	10537/96	1822

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EXAMINER	
KYLE, MICHAEL J	

ART UNIT	PAPER NUMBER
3676	

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/832,637	GAIL ET AL.	
	Examiner	Art Unit	
	Michael J Kyle	3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/11/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Reluzco et al ("Reluzco", U.S. Patent No. 6,168,162). With respect to claims 1 and 9, Reluzco discloses a brush seal comprising a bristle housing (18, 20) arranged on a stator and including a cover plate (18) and support plate (20). Examiner notes multiple embodiments in Reluzco, where the plates are referenced with numerals 18a, b, c and 20a, b, c. Examiner will refer to all of the plates in the embodiments generally as 18 and 20. Specifically, in this rejection examiner is referring to the embodiment in figure 7, where these plates are not labeled. As discussed above, these will be referred to with numerals 18 and 20. The bristle housing further comprises a circumferential surface (top surface of plates, where bristles are fastened) and two side surfaces (axial outer faces of 18 and 20, facing away from the bristles). Bristles are formed in the bristle housing and include free ends oriented toward a rotor (bottom of figure 7). A first positioning arrangement (72) is provided on a side surface, and a second positioning arrangement is provided on the stator (portion receiving pin 72). The first and second positioning arrangements interact with each other is a positive locking manner and provide definite positioning of the bristle housing so as to prevent relative rotation and reversed mounting of the entire housing. The housing cannot be

reversibly mounted as shown in figure 7, because the other plate does not have a slot 70, which would receive the pin 72. The pin, or project 72, has conical sections at its ends.

3. With respect to claim 2, the first positioning arrangement is a projection (72) and the second positioning arrangement includes a recess. Examiner notes that both the plate and the stator can be considered to have a recess (70 in the plate, portion receiving the pin in the stator), and the pin 72 can be considered to a projection of both the plate and the stator.

4. With respect to claims 3-5, examiner notes that limitations "formed by non-cutting shaping", "deep drawing", and "formed by flanging" are all process limitations in an article claim and are given little patentable weight. As longs as the prior art meets the structural limitations of the claims, then the prior art is considered to be capable of being made by the same process. It is also noted that there is no specific structure claimed that results from processes addressed above, other than the broad limitations regarding the bristle housing and its components. Because Reluzco shows a cover plate and supporting plate as claimed, it is considered capable of being formed by non cutting shaping that includes deep drawing. Additionally, the bristle housing (18, 20) of Reluzco is considered capable of being formed by flanging the cover plate. It is noted that a "flange" is not claimed by this limitation.

5. With respect to claims 7 and 8, Reluzco discloses the first positioning arrangement includes an integral projection (72) that projects beyond at least one side surface, and the second positioning arrangement includes a recess (portion of the stator receiving the pin 72) formed in the stator. The projection is engaged in the recess. Examiner notes the limitation "formed during non-cutting shaping" is a process limitation in an article claim and is given little patentable weight. Because Reluzco meets all structural limitations, the projection is considered

capable of being made by the same process. Examiner further notes, that as a whole, the assembly is a unit, and is therefore considered integral.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reluzco in view of Nakamura et al ("Nakamura", U.S. Patent No. 6,106,190). With respect to claim 6, Reluzco discloses a bristle housing (18, 20) arranged on a stator and including a cover plate (18) and support plate (20). The bristle housing further comprises a circumferential surface (top surface of plates, where bristles are fastened) and two side surfaces (axial outer faces of 18 and 20, facing away from the bristles). Bristles are formed in the bristle housing and include free ends oriented toward a rotor (bottom of figure 7). A first positioning arrangement (72) is provided on a side surface, and a second positioning arrangement is provided on the stator (portion receiving pin 72). The first and second positioning arrangements interact with each other is a positive locking manner and provide definite positioning of the bristle housing so as to prevent relative rotation and reversed mounting of the entire housing. The housing cannot be reversibly mounted as shown in figure 7, because the other plate does not have a slot 70, which would receive the pin 72. Reluzco shows the first positioning arrangement to be a projecting pin, and the second positioning arrangement to be a recess. Reluzco fails to show the first positioning arrangement

to be a spot weld that projects the circumferential surface, and the second positioning arrangement to include a recess in which the spot weld is engaged.

8. Nakamura teaches a projection (66b in figure 5b) on a first positioning element (66b) which fits into a recess (62b) of the second positioning element (60) to prevent the two elements from rotating with respect to one another. Nakamura et al further discloses an embodiment having a welded projection (W in figure 6b) that serves the same purpose as the projection in figure 5b. The projection (W), formed during a non-cutting shaping process also projects beyond one side surface and is lenticular in shape as claimed. Both projections function to prevent the first positioning arrangement, or the projection, from rotating with respect to the second positioning arrangement (60). Inasmuch as the references disclose these elements as art recognized equivalents, it would have been obvious to one of ordinary skill in the art to substitute one for the other. In re Fout, 675 F.2d 297, 301, 213 USPQ 532, 536 (CCPA 1982). One skilled in the art would incorporate such projections with the motivation to prevent the first positioning element from rotating with respect to the second positioning element.

9. Claims 1 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Werner (U.S. Patent No. 6,302,400) in view of Reluzco. Werner discloses a brush seal comprising a bristle housing (2) including a cover plate (3) and a supporting plate (4), bristles (5), circumferential surface (9), two side surfaces (vertical portions of 3 and 4), a first positioning arrangement on a side surface (portion of 4 abutting 2), and a second positioning arrangement on a rotor (portion of 2 abutting 4). Werner fails to disclose the first and second positioning

arrangements to be configured to interact with each other in a positive locking manner providing definite positioning of the bristle housing.

10. Reluzco discloses first and second (70, 72, in figure 7 or 74, 76, 78, in figure 8) positioning arrangements that interact in a positive interlocking manner. Reluzco uses the positioning arrangements as an anti-rotation feature (column 5, lines 20-31). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Werner to include the first and second positioning arrangements (70, 72, or 74, 76, 78) of Werner in order to prevent rotation of the brush seal. Incorporating such a feature into Werner would also lend to prevent reversed mounting of the entire bristle housing.

11. With respect to claim 10, Werner discloses the cover plate to have a flanged section (7) and the supporting plate to have an axial section (portion of 4, below 7, extending left to right). The axial section extends beyond one of the side surfaces and is disposed at an end of the cover plate close to the circumferential surface. The flanged section encloses a free end of the axial section projecting radially beyond the free end of the axial section and forming an undercut (at 6).

12. With respect to claim 11, Werner discloses the flanged section (7) to include an inner side surface forming the undercut, the inner side surface being disposed at a distance from the side surface of the supporting plate. The portion of the inner side surface that forms the under cut is at a distance from the supporting plate.

13. With respect to claims 12 and 13, Werner, as modified by Reluzco's embodiment in figure 8, shows the first and second positioning arrangements (74, 76, 78, of Reluzco) to include at least one pair of holes (in stator, receiving 78, column 5, lines 29-30, discusses the use of

multiple pins) in the stator in alignment with a pair of holes in the axial flange (76), where the pair of holes receive a fastener (78). The fastener is a bolt. It is noted that Merriam-Webster's Collegiate Diction, Tenth Edition, defines a "bolt" as "A metal rod or pin".

14. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Reluzco in view of Hanrahan (U.S. Patent No. 5,066,025). Reluzco fails to disclose angled bristles. Hanrahan teaches that it is known in the art that bristles are usually located at an angle with respect to the radius for the purpose of maintaining proper sliding relationship with the rotor (column 1, lines 21-28). Where the range of article sizes disclosed in the prior art envelops the recited range, and there is no showing of criticality of the recited range, such recited range would have been obvious to one of ordinary skill in the art. In re Reven, 390 F.2d 997, 156, USPQ 679 (CCPA 1968).

Response to Arguments

15. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection. Examiner now cites Reluzco either solely, or in combination, in the rejection of all claims.

16. With regard to applicant's argument that there is no motivation to combine the teachings of Nakamura with that of brush seal, examiner respectfully disagrees. It is shown Nakamura that engaging a projection in recess is equivalent to the use of a spot weld engaging a recess to prevent rotation. One having ordinary skill in the art would know to use either method to prevent relative rotation.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Kyle whose telephone number is 703-305-3614. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm. The examiner may be reached at 571-272-7057 after March 31, 2005, when the move to The Office's Carlyle Campus in Alexandria, VA, is completed.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mk

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